Appendix A
Functional Description And Functional Requirements

10 March 95
Revision

COLISEUM Requirements Definition Document
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A1. FUNCTIONAL DESCRIPTION AND FUNCTIONAL REQUIREMENTS.

The purpose of this appendix is to provide a high-level functional description (FD) and to list the functional requirements definitions for the COLISEUM implementation. Since COLISEUM is being developed and maintained using a spiral methodology (requiring user participation and feedback) rather than a traditional waterfall approach, this document is dynamic. It will be updated throughout the iterative process of the development effort and is subject to COLISEUM project CCB and DoDIIS Configuration Management (CM) procedures.

COLISEUM will be formally delivered in multiple phases; an Initial Operating Capability (IOC), and Final Operating Capability (FOC) will be developed for the DoD community, and an Objective Operational Capability (OOC) will be developed for the National Intelligence Community. The requirements in this document are separated into IOC, FOC, and OOC requirements. The IOC requirements are the requirements that have been baselined for the DoD IOC delivery (baseline functional system). The FOC requirements are the requirements that have been identified for the DoD FOC delivery, or target system. The OOC requirements are those requirements that are identified and are to be determined (TBD) for a Community-wide release of an enterprise system. The OOC will incorporate all modules identified and captured in this RDD by the end of this target effort, as well as those modules and requirements to be determined for a follow-on objective effort subsequent to the initial year of the COLISEUM (formerly DoDIMS) development effort.

A1.1 Functional Description.

This sub-section describes the system functions to be satisfied and serves as a basis for a mutual understanding between the users and the contractor. This FD provides information on the proposed methods and procedures, and includes assumptions and constraints. As new functionality is conceived/implemented during development, this section will be updated to describe those functions and integrate them into COLISEUM.

A1.1.1 Proposed Methods and Procedures.

The overall COLISEUM architecture will be developed in accordance with the DoDIIS CSE Specification, DoDIIS Profile, and other applicable DoDIIS architecture and data element standards as listed in the High Level Functional System Design Document. COLISEUM will be executed as a JDISS application running in the Unix environment. As a JDISS application, COLISEUM will rely on the communications protocols of the Joint Worldwide Intelligence Communications System (JWICS) to provide access to applications and databases located at other sites. COLISEUM will be the application used to register and track Production Requirements (PRs), assign PRs to production centers, as well as for registration and monitoring of intelligence product information. COLISEUM will be used to assist in PR validation and will provide the tools necessary for production management, scheduling, and deconfliction.

Users will access the COLISEUM database using the COLISEUM front-end developed in Gain*Momentum*. It will also assist the functionality of a standardized input query and reporting capability. The system will accept input from a keyboard, mouse, or remote sites. The user will direct output in report, graph, and chart form to a display monitor, laser or color printer, or for data file transmission over the network. Commercial off-the-shelf (COTS) software and hardware will be utilized and the underlying architecture will be semi-transparent to the user; that is, the user will operate in the Unix environment, but will be presented with enhanced options for COLISEUM access and operations.

A1.1.2 Summary of Improvements.

The improvements resulting from the implementation of COLISEUM will be the automation of the registration, validation, and production assignment of a PR, as well as the capability to perform on-line deconfliction and scheduling of intelligence products. Improvements include an efficient and complete automated method of tracking and monitoring PRs and production scheduling through the use of the query and report features to be built into the COLISEUM application, and the access, through JDISS/JWICS communications, to other Intelligence applications and databases.

The COLISEUM database will improve the current manual system of production management through the elimination of paper, by improving personnel performance, allowing user access across a network, increasing the flexibility in user reporting, efficient data retrieval, statistical and graphical reporting, centralized control, and regular backups which will provide historical and archival capabilities.

A1.1.3 Assumptions.

The following paragraphs identify the assumptions on which this FD is based.

A1.1.3.1 Assumptions for IOC.

The following subparagraphs identify the assumptions for IOC.

A1.1.3.1.1 The Government shall provide COTS/Government Off-The-Shelf (GOTS) hardware and licensed software necessary to operate on a Local Area Network (LAN) and Wide Area Network (WAN).

A1.1.3.1.2 The Government will be able to provide the Government-Furnished Equipment (GFE) and Government-Furnished Software (GFS) necessary for developing and implementing the system.

A1.1.3.1.3 The system will use a Gain*Momentum* based user-friendly environment for the Man-machine Interface (MMI) or front-end, SYBASE System 10 for the database engine, and Sybase Replication Server for replicating transactions from user nodes. For video processing applications specific to BDA analysts/users, Parallax firmware and software will be integrated into COLISEUM.

A1.1.3.1.4 The Government will provide access to all data and related automated systems required for development and/or integration of applications, and access to analysts and documents as required for subject matter consultation. (SOW)

A1.1.3.1.5 The contractor will develop an IOC system to provide a standardized graphical input, query, and reporting capability for a Unix workstation environment. (SOW)

A1.1.3.1.6 Government Points-of-Contacts (POCs) will be available for referral and the target user will participate in design reviews and testing of releases.

A1.1.3.2 Assumptions for FOC.

The following subparagraphs identify the assumptions for FOC.

A1.1.3.2.1 Each site will employ JDISS/JWICS workstations and a file server. COLISEUM will be developed based on the Client Server Environment (CSE), i.e., a file server to host the COLISEUM SQL Server and Replication Server at each site, and each workstation running the COLISEUM software as a client application.

A1.1.3.2.2 Following FOC, software maintenance for the system shall be provided by the Government or contractor.

A1.1.3.2.3 The Government will provide the functional and system requirements needed to develop the interface upon completion of ATS Unix Version RDD. (SOW)

A1.1.3.2.4 The Government will assign Beta test sites and initiate a Beta test period for exercising the system and collecting comments from the test sites.

A1.1.3.2.5 Upon concurrence from the Government, the contractor will enhance the IOC to address anomalies reported by the Beta test sites with respect to registering, validating, deconflicting, and assigning production requirements. This will also include enhancement requirements for Video Analysis by Digitization, Enhancement and Retransmission (VADER).

A1.1.3.2.6 A database administrator will be assigned.

A1.1.4 Constraints.

The following paragraphs identify the constraints on which this FD is based.

A1.1.4.1 Constraints for IOC.

This FD is based upon the following constraints:

A1.1.4.1.1 COLISEUM IOC will function in an operational prototype environment, requiring periodic maintenance updates and modifications until the FOC is delivered.

A1.1.4.1.2 COLISEUM will be unavailable during periodic version baselines and maintenance periods.

A1.1.4.1.3 COLISEUM is constrained to the (version) release of COTS/GOTS system and database software provided by the Government.

A1.1.4.1.4 Users will report system/software enhancement requests via Change Request Forms (CRFs). The CRFs will be reviewed, approved/rejected, and prioritized by the CCB.

A1.1.4.1.5 Free-text fields will not be validated by the automated system. Since free text implies that any character or number is allowable, validation and range checking is not feasible.

A1.1.4.1.6 System response time will be slower when querying on large, free-text fields or performing wildcard searches (as opposed to indexed fields), due to the need to perform string searches within those fields.

A1.1.4.1.7 Video processing applications (i.e., VADER) requiring unique video processing software/hardware will be limited to specific workstations.

A1.1.4.2 Constraints for FOC.

The constraints for FOC are the same as the constraints for IOC, excluding A1.1.4.1.1.

A1.1.5 Design Details.

This subsection describes how the proposed system will satisfy the users' functional requirements.

A1.1.5.1 System Description.

COLISEUM will be an application written in Gain*Momentum*. Gain*Momentum* will provide an approved Graphical User Interface (GUI) for COLISEUM data entry and retrieval. SYBASE SQL server will be the database engine used for storing the PR and intelligence production information. SYBASE replication server will be used to copy transactions from the originating server to the central server and other applicable sites.

A1.1.5.2 System Functions.

The COLISEUM database will provide a central repository for each site's specific information. A central database will house the entire communities' information. Intelligence customers will use COLISEUM to register PRs, and to monitor the progress of PRs and production against the PRs. Production centers will use COLISEUM to register product information which is generated for one or more PRs. Production centers can then use COLISEUM to perform production deconfliction, production scheduling, and assess production shortfalls. Management will use COLISEUM and the information in the various databases to generate several types of reports. These reports will be used to determine bottlenecks in the PR or production process.

System functions will be fulfilled via the hardware and software. Initial hardware components necessary to minimally meet user requirements for an initial capability are as follows:

JDISS platform (with 64MB of memory) connected to the LAN/WAN;

JWICS hardware and software communications infrastructure used by the JDISS workstation for connectivity to remote databases and applications;

file server connected to the LAN;

color and laser printer(s) access through the LAN;

a tape backup device; and

for BDA analysts/users, a Parallax video card.

Initial software components necessary to minimally meet user requirements for an initial capability will be compatible with JDISS 1.01 and are as follows:

Software listed in the JDISS documentation;

a user-friendly man-machine interface (MMI) (Gain*Momentum*, the runtime version on the JDISS workstations);

a COTS graphics capability which will interface with the SYBASE database product and allow bar, pie, and trend analysis charts to be displayed at a user's screen, printed, or formatted in a data file for transmission over the network; and

a COTS video capability (Parallax) which will interface with other commercial graphics tools/capabilities.

a COTS reports capability which will interface with the SYBASE database product and allow ad hoc and precanned reports to be displayed at a user's screen, printed, or formatted in a data file for transmission over the network.

A1.1.5.2.1 System Functions For IOC.

The following paragraphs identify the planned system functions for IOC.

A1.1.5.2.1.1 Provide database capability using SYBASE.

A1.1.5.2.1.2 Process all incoming database requests in accordance with DoDIIS/Intelligence Information Systems Board (IISB) security directives.

A1.1.5.2.1.3 Provide a user interface that presents a standard look-and-feel for all user screens.

A1.1.5.2.1.4 The overall architecture will be developed in accordance with the Defense Information Systems Agency Center For Architecture, DoD HCI Style Guide, DoDIIS CSE Specification, and DoDIIS Profile. (SOW)

A1.1.5.2.1.5 Provide pick-list (item selection) capability where possible. (SOW)

A1.1.5.2.1.6 Provide an add, update, and delete function to all dynamic and static data fields.

A1.1.5.2.1.7 Provide a capability to assign or forward production requests to IC producers who use the JWICS WAN. (SOW)

A1.1.5.2.1.8 Provide a stand-alone capability to perform video capture and digitization.

A1.1.5.2.2 System Functions For FOC.

The system function for FOC include all of the system functions for IOC. The following paragraphs identify the additional planned system functions for FOC.

A1.1.5.2.2.1 Allow database access only to National Intelligence Producers Board (NIPB) and Department of Defense Intelligence Producers Council (DoDIPC) specified users.

A1.1.5.2.2.2 Provide automatic database backups on a daily, weekly, quarterly, and annual basis to ensure protection of data. The Database Administrator (DBA) will perform the backups for the main database. Each site will perform its own backups.

A1.1.5.2.2.3 Provide a requestor/validator capability through InteLink to access current intelligence products (i.e.: National Intelligence Daily, Military Intelligence Digest, NMJIC Executive Highlights, Defense Intelligence Report, Daily Intelligence Highlights, Chairman's Morning Brief, etc.) (MIS)

A1.1.5.2.2.4 Provide users the option to review all maintenance transactions (static field additions, updates, deletions, etc.) before applying changes to the COLISEUM database.

A1.1.5.2.2.5 Allow for screening of projected production schedules and finished intelligence to ascertain duplication and shortfalls. (MIS)

A1.1.5.2.2.6 Provide a query capability which will enable managers to formulate queries to forecast production trends and produce management and deconfliction reports. (SOW)

A1.1.5.2.2.7 Provide a query capability which will allow string searches in ad hoc queries. (MIS)

A1.1.5.2.2.8 Provide the capability to transmit unique and preprogrammed production management briefings and reports electronically to other organizations. (SOW)

A1.1.5.2.2.9 Provide a graphical software package that will tie into the Government-selected database product and allow pie, bar, area, column, line, trend analysis, 3-D column, 3-D line, 3-D pie charts. Also provide the capability for users to extract pie chart segments and identify individual segments in a printed list. (SOW)

A1.1.5.2.2.10 Provide a reporting capability that will tie into the Government-selected database product and produce multi-format (preprogrammed or special) reports. (SOW)

A1.1.5.2.2.11 Provide users with the capability to output reports, graphs, and charts to the display monitor, laser or color printer, or data file for transmission over the network. (SOW)

A1.1.5.2.2.12 FOC modules shall provide an interface to Requirements Management System (RMS), JDISS/JWICS, Automated Tasking System (ATS), applicable applications within DoDIIS Dissemination, All Source Document Index (ASDIA), and InteLink.

A1.1.5.2.2.13 Provide an interface to the COTS E-Mail system consistent with the JDISS CSE workstation environment to provide automatic mail forwarding from within COLISEUM. (SOW)

A1.1.5.2.2.14 Satisfy both DoDIIS and Intelligence Information Systems Board (IISB) requirements. (SOW)

A1.1.5.2.2.15 FOC modules shall provide specified users a menu of options to receive or export resident data from other DoDIIS/IISB compliant data formats via CD-ROM, 1/4" tape cassette, or floppy disk over the Defense Intelligence Secure Network (DISN), JDISS/JWICS, Consolidated On-line Intelligence System (COINS) wide area networks from other NIPB organizations. (SOW)

A1.1.5.2.2.16 Provide a BDA capability accessible only to BDA analysts for performing video capture, manipulation and annotation, but accessible to production users for retrieval of finished BDA products.

A1.1.5.2.3 System Functions For OOC.

The following paragraphs identify the planned system functions for OOC.

A1.1.5.2.3.1 Monitor status of External Research Contracts (ERC). (MIS)

A1.1.5.2.3.2 Provide a capability to assign or forward production requests to IC producers who use the Defense Secure Network (DSNET) WAN. (SOW)

A1.1.5.3 Interfaces.

The COLISEUM IOC will interface to InteLink. Additionally, the FOC will interface with the JDISS mail package (ASTER*X) at the Simple Mail Transfer Protocol (SMTP) layer to transmit messages. The file to be passed will be built by the COLISEUM application. Once the message file is built, COLISEUM will execute the SMTP portion of the JDISS mail package, providing the parameters necessary to send a message. A copy of the message generated will also be stored in the COLISEUM database linked to the referenced PR or product. The FOC module of COLISEUM will also provide interfaces to RMS, JDISS/JWICS, ATS, ASDIA, and applicable applications within DoDIIS Dissemination. The interfaces to the above mentioned external systems will be addressed in respective interface control documents (ICDs).

A1.1.5.4 Failure Contingencies.

Through the use of the SYBASE Replication Server, backups can be accomplished on-line to ensure the COLISEUM database is backed-up in case of file server problems. The Replication Server will also que up transactions that are to be sent to remote databases when communications lines are inactive. These transactions will be executed by a controlled process once the communications line becomes active. Each site will have a COLISEUM database containing the site specific information. When records are modified, the Replication Server will be programmed to replicate the update to the appropriate remote database. This will maintain at least two copies of the COLISEUM records at any given time.

A1.1.5.5 Security.

Initial security is provided at the workstation level by the JDISS software. This will limit access to the workstation. COLISEUM will then require a password to use the COLISEUM functions. The SYBASE tables will also have passwords and user definitions which will limit accesses, or user functions (Read, Read/Write, etc.).

A1.2 Functional Requirements.

This section lists users functional requirements. The functional requirements are driven by the need for an automated PR tracking system based on the DoDIPP and the National Community needs.

Included are the functional requirements for BDA users who will access the VADER application within COLISEUM. The functional requirements are categorized into IOC, FOC, and OOC as follows:

A1.2.1 Functional Requirements for IOC.

A1.2.1.1 Requirements/Community Needs Module.

The following paragraphs identify the functional requirements for IOC.

A1.2.1.1.1 Provide automated notification of PR awaiting validation.

A1.2.1.1.2 Enable users to register, validate/deconflict, and/or assign consumer production needs/requirements to producers. (SOW)

A1.2.1.1.3 Provide the capability to track and manage IC production requirements once registered. (SOW)

A1.2.1.1.4 Provide an on-line database capability for users to interactively update, query and browse the database. (SOW)

A1.2.1.1.5 Provide a Windowing capability to allow users to run multiple applications simultaneously and "cut and paste" data from one application into another. (MIS)

A1.2.1.1.6 Output/Reports Requirement. Provide preformatted reports for displaying user identified data elements. Reports specified in paragraphs 1.2.1.1.6.1 and 1.2.1.1.6.2 will be provided at IOC deployment. Additional IOC reports will be developed in a user priority sequence after deployment of COLISEUM to the first IOC site.

A1.2.1.1.6.1 All PRs: List all PRs in a tabular format (by REQ_DTG, IFC, COUNTRY CODE, or ORGANIZATION).

A1.2.1.1.6.2 All PRs By Suspense or LTIOV: List all PRs due no later than DTG (Suspense or LTIOV) with the following fields listed in a tabular format: REQ_DTG, COUNTRY CODE, SUBJECT, FROM (ORG), REQ_ID.

A1.2.1.1.6.3 Average User Priority: List the average user priority from one DTG to another on particular COUNTRY CODEs and IFCs.

A1.2.1.1.6.4 PR Disposition: FROM (ORG), REQ_ID, COUNTRY CODE, SUBJECT, ACTION (to); and graph the following: Quantity on the Y axis and Action Addressees (a, b, c, d...) on X axis.

A1.2.1.1.6.5 NIPB Production Review Production Requirements/Needs: List the following fields in tabular format: DATE (YY/MM/DD), REQUESTOR, VO, TITLE (Alphabetic Order), REQ_DTG (YY/MM/DD), DATE VALIDATED (YY/MM/DD), DATE ASSIGNED (YY/MM/DD) by DoD and Non-DoD REQUESTORS.

A1.2.1.1.6.6 Non-DoD Active PRs By NIPB Organizations Graph: Display a bar chart and matrix for the present year and the previous four years. The bar chart will be based on the total PRs per Organization by year. The matrix will be based on the total PRs with the year on the left side of the matrix and the Organization across the top of the matrix. A total column is also required for the bar chart and matrix. (similar to Army "Active IPRs BY MACOM" graph).

A1.2.1.1.6.7 DoD Active PRs By NIPB Organizations Graph: Display a pie chart and bar chart for the present and previous quarter. The pie charts will be based on PRs per Organization. The bar chart will be based on the number of PRs assigned. (similar to Army "Active IPRs BY MACOM" graph).

A1.2.1.1.6.8 Production Review Non-DoD/NIPB Production Requirements Graph: Display a pie chart and bar chart for the present and previous quarter. The pie charts will be based on PRs per Organization. The bar chart will be based on the number of PRs assigned. (similar to Army Production Review Intelligence Production Requirements graph containing the "Total Army" requirements).

A1.2.1.1.6.9 Production Review DoD/NIPB Production Requirements Graph: Display a pie chart and bar chart for the present and previous quarter. The pie charts will be based on PRs per Organization. The bar chart will be based on the number of PRs assigned. (similar to Army Production Review Intelligence Production Requirements graph containing the "Total Army" requirements).

A1.2.1.2 Video Analysis

A1.2.1.2.1 Accept US/Allied video (NTSC/PAL) signals.

A1.2.1.2.2 Digitize 100% of available time resolution in video; for NTSC, 30fps and 60 fields/sec, and for PAL/SECAM, 25 fps and 50 fields/sec.

A1.2.1.2.3 Digitize at 640x480 pixels, with 1024x768 or better desired.

A1.2.1.2.4 Separate (deinterlace) fields within frames.

A1.2.1.2.5 Store (capture) video signal to hard disk in real time.

A1.2.1.2.6 Capture greater than 10 seconds of video with 1 or more audio tracks.

A1.2.1.2.7 Enhance picture contrast and brightness with ability to zoom in on selected viewing areas. Enhancement of video image using user selected algorithms (e.g., edge detection, equalization) is desired.

A1.2.1.2.8 Reap black & white or color video to "pseudo-color".

A1.2.1.2.9 Replay video forward and reverse at user variable speed selection - from single step through twice real-time.

A1.2.1.2.10 Replay user selected video segment in a continuous loop.

A1.2.1.2.11 Overlay/annotate captured video and selected stills with user selectable text size and fonts. Overlay/annotate captured video and selected stills with user selectable graphic symbols typical of those provided in vector-based COTS drawing applications, e.g., circles, rectangles, lines, etc.

A1.2.2 Functional Requirements for FOC.

Functional requirements for FOC include all of the functional requirements for IOC. The following paragraphs identify additional functional requirements for the FOC delivery.

A1.2.2.1 General Requirements.

The following paragraphs identify the general functional requirements for FOC.

A1.2.2.1.1 Provide string search capability.

A1.2.2.1.2 Provide the capability to track and manage IC production requirements through dissemination and ensure customer satisfaction. (SOW)

A1.2.2.1.3 Provide the capability to query all fields in all user viewed input/output screens.

A1.2.2.1.4 Provide ad hoc report capability and screens.

A1.2.2.1.5 Provide graphical display capability.

A1.2.2.1.6 Integrate a COTS graphics capability to tie into the SYBASE database which will provide graphical reports (pie charts and bar charts.)

A1.2.2.1.7 Integrate VADER into the COLISEUM environment so that the application can be seamlessly executed to perform the functions implemented in both IOC and FOC.

A1.2.2.2 Production Module Requirements.

The following paragraphs identify the functional requirements for the FOC Production Module.

A1.2.2.2.1 Provide managers with a capability to produce/maintain community intelligence production schedules. (SOW)

A1.2.2.2.2 Provide an interface to applicable production/dissemination databases. (SOW)

A1.2.2.2.3 Provide managers with the capability to formulate queries to forecast significant production trends and produce management and deconfliction reports. (SOW)

A1.2.2.2.4 Provide the capability to register production.

A1.2.2.2.5 Provide the capability to deconflict production.

A1.2.2.2.6 Provide the capability to maintain on-line production schedules.

A1.2.2.2.7 Provide the capability to access production requirement responses.

A1.2.2.2.8 Provide capability through InteLink to access products stored remotely by pulling the product to the local site. (MIS)

A1.2.2.2.9 Output/Reports Requirement. Provide preformatted reports for displaying user identified data elements in tabular or graphical format.

A1.2.2.2.9.1 Overdue PRs By Topic, by Originator, or by Suspense/LTIOV: Sort overdue PRs in a tabular format (PRs not answered by the suspense date, and PRs not answered by LTIOV) by topic, by ORIGINATOR, or by SUSPENSE DATE/LTIOV.

A1.2.2.2.9.2 Production Center Response: Tally responses by the PRODUCTION CENTER which responded to the PR.

A1.2.2.2.9.3 Overdue PRs: List all overdue PRs with the following fields listed: DAYS OVERDUE, DUE DATE, COUNTRY CODE, SUBJECT, FROM, PR#.

A1.2.2.2.9.4 NIPB Production Review Finished Production: List the following fields in tabular format by DoD and Non-DoD Producers by FQ_DISSEM by PRODUCER: FQ_DISSEM, PRODUCER, COLLAB PRODUCER, TITLE (alphabetic order), IFC, FIRCAP, TIER, and PROD_ID.

A1.2.2.2.9.5 NIPB Production Review Requirement/Need Thru Product Dissemination By DoD and Non-DoD NIPB Organizations: List the following fields in tabular format by DoD and Non-DoD NIPB Organizations: TITLE (alphabetic order), REQUESTOR DATE (YY/MM/DD), VO DATE

(YY/MM/DD), ASSIGNED DATE (YY/MM/DD), PRODUCTION SCHEDULE DATE (YY/MM/DD), DISSEM DATE (YY/MM/DD).

A1.2.2.2.9.6 NIPB Production Review Scheduled Production: List the following fields by DoD and Non-DoD Organizations in tabular format: DATE (YY/MM/DD), PRODUCER, COLLAB PRODUCER, TITLE (alphabetic order), IFC, FIRCAP, TIER.

A1.2.2.2.9.7 Production Review Non-DoD/NIPB Scheduled Production Graph: Display a pie chart and bar chart for the present and previous quarter. The pie charts will be based on PRs per Organization. The bar chart will be based on the number of PRs assigned. (similar to Army "Intelligence Production Requirements Graph" with four graphs).

A1.2.2.2.9.8 Production Review DoD/NIPB Scheduled Production Graph: Display a pie chart and bar chart for the present and previous quarter. The pie charts will be based on PRs per Organization. The bar chart will be based on the number of PRs assigned. (similar to Army "Intelligence Production Requirements graphs" with four graphs).
A1.2.2.2.9.9 Production Review DoD/NIPB Finished Products Status Graph: Display a pie chart and bar chart for the present and previous quarter. The pie charts will be based on PRs per Organization. The bar chart will be based on the number of PRs assigned. (similar to the "Army Dissemination Account Status Graph").

A1.2.2.2.9.10 Production Review Non-DoD/NIPB Finished Products Status Graph: Display a pie chart and bar chart for the present and previous quarter. The pie charts will be based on PRs per Organization. The bar chart will be based on the number of PRs assigned. (similar to the "Army Dissemination Account Status Graph").

A1.2.2.3 Electronic Mail Interface Requirements.

The following paragraphs identify the functional requirements for the FOC Electronic Mail Interface.

A1.2.2.3.1 Provide a COLISEUM interface to COTS E-Mail system consistent with CSE JDISS workstation environment. (SOW)

A1.2.2.3.2 Provide automatic mail forwarding from within COLISEUM. (SOW)

A1.2.2.4 Automated Tasking System Module Requirements.

The following paragraphs identify the functional requirements for the FOC Automated Tasking System Module.

A1.2.2.4.1 Provide an interface to ATS to give COLISEUM users the capability to pass administrative staff actions. (SOW)

A1.2.2.4.2 Provide the capability to capture all production tasking (assigning) in ATS. (SOW)

A1.2.2.5 Special Requirement Reports Module Requirements.

The following paragraphs identify the functional requirements for the FOC Special Requirement Reports Module.

A1.2.2.5.1 Enable users to perform quick response or ad hoc queries against the database to provide uniquely formatted informational reports to IC managers. (SOW)

A1.2.2.5.2 Provide capability for developing both unique and preprogrammed production management briefings and reports, and the ability to transmit these reports electronically to other organizations. (SOW)

A1.2.2.5.3 Provide reports in graphical, and textual formats, subject to integrated COTS capabilities.

A1.2.2.5.4 CIPS Report: Provide the capability to print the CIPS Report to a file for final formatting in word processing or desktop publishing. Two file formats are needed. The first will contain the following fields for Scheduled Production: TITLE, TITLE CLASS, ABSTRACT, ABSTRACT CLASS, PRODUCER, PUB_CLASS, PR#, DISSEM_QTR, DISSEM_YR, COVER_DATE, PROD_ID, STATUS, and TARGET_AUDIENCE. The second will contain the following fields for Disseminated Production: TITLE, TITLE CLASS, ABSTRACT, ABSTRACT CLASS, COVER_DATE, ICOD, TARGET AUDIENCE, PUB_CLASS, PROD_ID, PRODUCER, PR#, and IFC.

A1.2.2.5.5 Provide the capability to display, print, and/or transmit over the network the following preprogrammed Production Management and Deconfliction Reports:

A1.2.2.5.5.1 Originator Detailed Check: Display/print all data fields for a given request number that supports the request origination process. (MIS)

A1.2.2.5.5.2 Validation Check: Display/print all existing intelligence production needs/requirements by a specifically identified validating organization. (MIS)

A1.2.2.5.5.3 Validation and Production Assignment Overdue: Display/print all existing intelligence production needs that have not been validated, deconflicted, and tasked (assigned) within a 5, 10, or 15-day suspense by a specific validating producer organization. (MIS)

A1.2.2.5.5.4 Validation Detailed Check: For a given intelligence request or assignment number, print all data fields for a specific request through the validation and deconfliction phases. (MIS)

A1.2.2.5.5.5 Consumers Check Status Report: Display/print all requests originated by a specific organization (all of the originators' intelligence needs/requirements), using all appropriate module

databases (i.e., Register of Intelligence Needs/Requirements, Register of Community Intelligence Products, Community Production Schedule, Production and Community Shortfalls/Gaps). (MIS)

A1.2.2.5.5.6 Production Status: Display/print the status of requests, assignments, schedules, products, and shortfalls. (MIS)

A1.2.2.5.5.7 Request All: Display/print all data fields associated with a specified number, topic title, geographic area, Intelligence Function Code (IFC), time period, functional area, consumer, producer, action officer, etc. (MIS)

A1.2.2.6 Video Analysis.

The following paragraphs identify the functional requirements for the FOC Video Analysis Module.

A1.2.2.6.1 Save video with annotations. Capability to save annotations and video separately is desired.

A1.2.2.6.2 Display frame counter and real-time stopwatch on video screen.

A1.2.2.6.3 Mensurate video from known reference inputs, i.e., user marks positions on screen and inputs dimensions of marked positions to enable application to compute/display distances, angles, areas, etc..

A1.2.2.6.4 Output images to minimum 300/600 DPI laser printers. Higher resolution and color printing desired.

A1.2.2.6.5 Export still frames to multiple formats, e.g., TIFF, JPEG/JFIF, NITF, etc.

A1.2.2.6.6 Export video clips for playback in formats compatible with non-BDA workstations, i.e., MPEG and MJPEG.

A1.2.3 Functional Requirements for OOC.

The following paragraphs identify the functional requirements for the OOC.

A1.2.3.1 Provide the capability to maintain closed PR's on-line for two years after closure and to archive to tape all PRs closed within five years.

A1.2.3.2 Provide the capability to retrieve, display, and/or print preprogrammed Production Management and Deconfliction Reports.

A1.2.3.2.1 External Research Contract (ERC) Status. Provide information on the status and availability of research and assistance contracts within the Intelligence Community. Also provide the

originator or any specific NIPB organization or NIPB staff element the External Research Contracts information that has received approval and access. (MIS)

A1.2.3.3 Provide the intelligence community with reports which show an integrated view of consumer requirements, production schedules and other production-related information and production shortfalls, thus enabling intelligence production managers to minimize duplication and to make better resource decisions.

A1.2.3.4 Provide capability to store search results. (MIS)

A1.2.3.5 Provide an on-line help capability.

A1.2.3.6 Provide VADER users with the capability to catalog video clips and label off-line storage tapes for archiving. This capability is to interface with other BDA intelligence databases, e.g., WEAPDA and RAAP, and DoDIIS targeting/BDA related applications to be determined.

A2. SYSTEM REQUIREMENTS.

The following paragraphs state the system requirements for the COLISEUM database.

A2.1 Provide a system account (login) for all authorized JDISS/JWICS users.

A2.2 Provide a COLISEUM account (login) for all authorized COLISEUM users.

A2.3 Provide a COTS graphics capability which will interface with the SYBASE database fields/tables to enable creation of pie charts and bar charts for reports.

A2.4 Provide third-party database products when applicable, which will meet all functional requirements and supports a Unix operating system on Sun SPARCstations operating as a workstation on the JDISS/JWICS communications infrastructure.

A2.5 Provide a DBMS which will meet all functional requirements and supports a Unix operating system on Sun SPARCstations operating as a workstation on the JDISS/JWICS communications infrastructure.

A2.6 Provide the capability for uploading data elements from external systems in order to populate the database tables/picklists.

A2.7 Provide a database administrators capability for updating static and dynamic system tables/picklists.

A2.8 Provide a security administrators capability for adding, changing, and deleting user accounts and privileges.

A3. COMMUNICATION REQUIREMENTS.

This section contains communication requirements for COLISEUM.

A3.1 Provide multi-user access from workstations connected to the JDISS/JWICS communications infrastructure.

A3.2 Provide an OOC capability to use STU-III modems for backup communications if necessary.

A4. REQUIREMENTS TRACEABILITY MATRIX.

RDD REQUIREMENT	SOLUTION
A1.1.5.2.1.1	COLISEUM will access (query/update) SYBASE System 10.
A1.1.5.2.1.2	Users must have access to workstation and database to access data. JDISS will provide workstation security, COLISEUM will require users to have a password for SYBASE before allowing access to the application. SYBASE will provide security, through passwords and privileges, to the data if the user uses ISQL. Auditing is provided through the use of SYBASE audit trails (transaction log and SysAudits table). The Syslogs and audit features are defined by SYBASE.
A1.1.5.2.1.3	All screens are using the same design (colors, field placement, actions for pick-lists, buttons, etc.) and are in accordance with the DISA HCI Style Guide.
A1.1.5.2.1.4	The COLISEUM application adheres to the DISA HCI Style Guide. The IOC/FOC application is portable to the platforms specified in the DoDIIS Client-Server Environment (CSE) Requirements Specification. COLISEUM is built on the CSE concept of the application residing/executing on a "client" with the ability to access data residing on one or more servers.
A1.1.5.2.1.5	Pick-list type selections are provided for all static data. Pick-lists are also used on various dynamic fields, such as names, PR Numbers, etc.
A1.1.5.2.1.6	Users, based on privileges, will be able to modify displayable data within the COLISEUM application. DBAs will be able to modify all data through ISQL.
A1.1.5.2.1.7	(IOC) users (validating officials) will be able to assign and/or forward PRs to producers who are on the JDISS/JWICS WAN.

A1.1.5.2.1.8	BDA analysts/users will be able to capture video from a VCR input device and save video in digital format on a non-JDISS workstation.
A1.1.5.2.2.1	Authorized users of COLISEUM will be given login IDs and passwords to access the information within COLISEUM. Accounts for the users will be set up to determine privileges and levels of authority when the user is assigned a login ID and password.
A1.1.5.2.2.2	Batch jobs to dump the COLISEUM data tables will be set up to run at specified times for each site. DBAs will determine when the most logical time for backups/dumps to be accomplished. DBA's will also be able to perform the backups/dumps when necessary (unscheduled) through ISQL.
A1.1.5.2.2.3	Once InteLink is fielded, and if it is available on the user's workstation, users will be able to access information through InteLink. (Follow InteLink procedures/standards.)
A1.1.5.2.2.4	Users with the "Authoritative Position" for modifying static tables will review modifications prior to entry into COLISEUM for purposes of validity, and data integrity.
A1.1.5.2.2.5	Managers/users will be able to query the central COLISEUM database to obtain production schedules for each site, areas of interest (IFC), production centers, etc.
A1.1.5.2.2.6	Managers/users will be able to query the central COLISEUM database to obtain information about production trends, etc. A COTS reporting package will be integrated to provide "ad hoc" queries/reports.
A1.1.5.2.2.7	Users will be able to use string searches on all text fields displayed in COLISEUM. This includes "wild-card" searches and "ad hoc" queries. (COTS report package/SYBASE SQL generated queries.)
A1.1.5.2.2.8	The E-mail capability will be utilized to provide users the capability to transmit briefings and reports electronically to other organizations.
A1.1.5.2.2.9	A COTS graphics package capable of generating specified graphical reports from SQL server queries will be integrated with COLISEUM.

A1.1.5.2.2.10	A COTS reports package which will provide users the capability to generate "ad hoc" and "unique" reports and queries will be integrated with COLISEUM.
A1.1.5.2.2.11	The COTS packages that provide "ad hoc" query and report capabilities will be able to direct the results and/or output to user specified devices available to COLISEUM.
A1.1.5.2.2.12	COLISEUM will interface with applications identified by the customer. COLISEUM will be an application residing on JDISS, which will provide the necessary communications links to applications on non-JDISS hosts.
A1.1.5.2.2.13	COLISEUM will utilize the ASTER*X mail package as a method of notifying users of changes in the COLISEUM database. An interface will also be provided within COLISEUM to send mail to users regarding the PR or product under review. Messages transmitted while in COLISEUM are captured in COLISEUM data tables and linked to PRs or products.
A1.1.5.2.2.14, 1.1.5.2.2.16	Requirements (stated) for the IISB and DoDIIS will be satisfied through COLISEUM (Production Requirement tracking and management.)
A1.1.5.2.2.15	Specific users will be able to import and/or export data based on identified formats. Import/export capability includes data from CD-ROM, 1/4" tape, floppy disk, or from files received over the network.
A1.1.5.2.2.16	BDA analysts/users will be able to access VADER through COLISEUM to perform BDA functions. All others will be limited to retrieval and playback of stored videos.
A1.1.5.2.3.1	The capability to monitor the status of the External Research Contracts (ERC) will be provided in the ERC module.
A1.1.5.2.3.2	The PR can be forwarded in a format to non-JDISS users who have access to the same LAN as COLISEUM. (Can not cross "air gap" through automation at current time.)
A1.2.1.1.1	For IOC, a Unix "Cron" job (batch) will be executed. This function will execute an SQL statement and issue a message when records are found that meet the criteria of the SQL select statement. (FOC, E-Mail as well.)

A1.2.1.1.2	Once a Validator assigns the primary IFC and primary Country Code, the Primary Producer will be assigned to the PR from the IPC_PROD matrix. When the Action "ASSIGN" is executed, the record will be "replicated" to the producer's server. (FOC, an E-Mail message will also be generated.)
A1.2.1.1.3	When a PR is registered and when modifications are applied to a registered PR, the Replication Server will apply these transactions to the central server, and other servers. Management will be able to "track" using queries to the central server.
A1.2.1.1.4	The COLISEUM application will query the SYBASE database for browse, and depending on privileges, update capabilities.
A1.2.1.1.5	JDISS provides Looking Glass Windows Manager. This provides the capability to run multiple applications at one time, as well as "cut and paste" between applications.
A1.2.1.1.6.1	The capability to produce a listing of all PRs will be accomplished by providing a screen which will allow the user to select the fields and order of position. (Sort, display, etc.) Users will also be able to provide parameters to have only certain PRs on a report (by Date Submitted, IFC, Country Code, or Producer.)
A1.2.1.1.6.2	A preformatted report will be provided. The user will specify the Suspense or LTIOV.
A1.2.1.1.6.3	A preformatted report to calculate the average user priority will be provided. The user will specify date range and Country Code and/or IFCs.
A1.2.1.1.6.4	A bar chart, based on originator (FROM), Country Code, Subject, and Action, which displays the number of PRs on the Y axis, and breaks-out the Action Addressees on the X axis.
A1.2.1.1.6.5	A tabular report will be provided displaying the fields specified in the requirement.
A1.2.1.1.6.6	A bar chart will be provided to display the Non_DoD Active PRs By NIPB Organizations. The user will provide the FQ on which the data is reported.

A1.2.1.1.6.7	A bar chart will be provided to display the DoD Active PRs By NIPB Organizations. The user will provide the FQ on which the data is reported.
A1.2.1.1.6.8	A graph will be provided to display the Production Review Non-DoD/NIPB Production Requirements. The graph will contain combination charts (pie (2), graph (2)). The user will provide the FQ on which the data is reported.
A1.2.1.1.6.9	A graph will be provided to display the Production Review DoD/NIPB Production Requirements. The graph will contain combination charts (pie (2), graph (2)). The user will provide the FQ on which the data is reported.
A1.2.2.1.1	String search capabilities will be provided in COLISEUM when querying to review PRs or products on the test fields used to identify the PR or product (Subject, Statement of Requirement, Title, Abstract, etc.). String searches in "ad hoc" mode will also be provided by the COTS report package integrated with COLISEUM.
A1.2.2.1.2	The capability to track a PR through customer satisfaction will be provided using queries (status) about the PR, and the "Customer Satisfaction" information (user input) once a PR has been answered.
A1.2.2.1.3	A COTS report package will be integrated with COLISEUM which will provide the capability to query on all viewable data items within COLISEUM.
A1.2.2.1.4	A COTS report package will be integrated with COLISEUM which will provide "ad hoc" query and report capabilities.
A1.2.2.1.5	A COTS graphics package will be integrated with COLISEUM which will provide "ad hoc" and canned graphical output.
A1.2.2.1.6, A1.2.2.1.7	Managers/users will be able to query the central COLISEUM database to obtain information about production trends, etc. A COTS reporting package will be integrated to provide "ad hoc" queries/reports.
A1.2.2.2.1	Managers (production) will be able to query the COLISEUM database and produce, monitor, and make management decisions for production schedules.

A1.2.2.2.2	COLISEUM will interface with other databases and/or applications to feed/retrieve specific pieces of production information.
A1.2.2.2.3	Managers (production) will be able to query the COLISEUM database and produce, monitor, and make management decisions for production schedules.
A1.2.2.2.4	COLISEUM will provide the capability to register a product based on a registered and validated PR.
A1.2.2.2.5	Production deconfliction will be accomplished using reports and query results from the production database in COLISEUM.
A1.2.2.2.6	Canned reports designed to report production schedule information will be available in COLISEUM.
A1.2.2.2.7	Responses sent through COLISEUM will be captured and linked to PRs within COLISEUM. Queries can be formulated which will allow users to see all or specific responses/messages generated based on one or more PRs.
A1.2.2.2.8	If InteLink is available, the user will be able to access products via InteLink.
A1.2.2.2.9.1	Canned reports will be available in COLISEUM that will report on overdue PRs by topic, originator, and/or by suspense/LTIOV.
A1.2.2.2.9.2	Canned reports will be available in COLISEUM that will report on which production centers responded to a PR.
A1.2.2.2.9.3	A tabular report will be available in COLISEUM that will report on overdue PRs displaying the fields specified in the requirement.
A1.2.2.2.9.4	A tabular report will be provided on the NIPB Production Review Finished Production. The fields specified in the requirement will be displayed.
A1.2.2.2.9.5	A tabular report will be provided on the NIPB Production Review Requirement/Need Thru Product Dissemination by DoD and Non-DoD NIPB Organizations. The fields specified in the requirement will be displayed.

A1.2.2.2.9.6	A tabular report will be provided on the NIPB Production Review Scheduled Production by DoD and Non-DoD Organizations. The fields specified in the requirement will be displayed.
A1.2.2.2.9.7	A graph will be provided to display the Production Review Non-DoD/NIPB Scheduled Production. The graph will contain combination charts (pie (2), graph (2)). The user will provide the FQ on which the data is reported.
A1.2.2.2.9.8	A graph will be provided to display the Production Review DoD/NIPB Scheduled Production. The graph will contain combination charts (pie (2), graph (2)). The user will provide the FQ on which the data is reported.
A1.2.2.2.9.9	A bar chart will be provided to display the Production Review DoD/NIPB Finished Products Status. The user will provide the FQ on which the data is reported.
A1.2.2.2.9.10	A bar chart will be provided to display the Production Review Non-DoD/NIPB Finished Production Status. The user will provide the FQ on which the data is reported.
A1.2.2.3.1	COLISEUM will utilize the ASTER*X mail package as a method of notifying users of changes in the COLISEUM database. An interface will also be provided within COLISEUM to send mail to users regarding the PR or product under review. Messages transmitted while in COLISEUM are captured in COLISEUM data tables and linked to PRs or products.
A1.2.2.3.2	COLISEUM will use the E-mail interface to send messages when certain actions occur in the database. Any action to a PR will generate a message to the requestor or SIO if the requestor is not on the system. Messages will be sent to the VO and chain of command when the PR is registered. Messages will be sent to all production centers that have been determined to be primary or collaborative producers on a validated PR.
A1.2.2.4.1	COLISEUM will interface with applications identified by the customer. COLISEUM will be an application residing on JDISS, which will provide the necessary communications links to applications on non-JDISS hosts. COLISEUM will "send" identified information to ATS.

A1.2.2.4.2	COLISEUM will "accept" information from ATS.
A1.2.2.5.1	A COTS report package will be integrated with COLISEUM to which will provide "ad hoc" query and report capability on COLISEUM and other identified databases.
A1.2.2.5.2	The E-mail capability will be utilized to provide users the capability to transmit briefings and reports electronically to other organizations.
A1.2.2.5.3	A COTS graphics package capable of generating specified graphical reports from SQL server queries will be integrated with COLISEUM.
A1.2.2.5.4	A canned report which will emulate the CIPS report will be provided in COLISEUM. This report will automatically be sent to a file on the requesting user's host and will be available for use in desktop publishing and/or word processing.
A1.2.2.5.5.1	A preformatted report will be provided to display all fields for a given PR that supports the request origination process.
A1.2.2.5.5.2	A preformatted report will be provided to display all existing intelligence production needs/requirements by a specifically identified validating organization.
A1.2.2.5.5.3	A preformatted report will be provided to display all existing intelligence production needs that have not been validated, deconflicted, and assigned within a 5, 10, or 15-day suspense by a specific validating producer organization.
A1.2.2.5.5.4	A preformatted report will be provided to display all fields for a specific PR through the validation and deconfliction phases.
A1.2.2.5.5.5	A preformatted report will be provided to display all PRs originated by a specific organization.
A1.2.2.5.5.6	A preformatted report will be provided to display the status of requests, assignments, schedules, products, and shortfalls.

A1.2.2.5.5.7	A preformatted report will be provided to display all fields associated with a specified PR, topic title, geographic area, IFC, time period, functional area, consumer, producer, and action officer.
A1.2.3.1	DBAs will be able to execute archive functions on a periodic and/or scheduled frequency to archive data after, and for, a specified amount of time.
A1.2.3.2.1	ERC reports will be provided when the ERC module is further defined.
A1.2.3.3	Reports will be provided to show an integrated view of consumer requirements, production schedules, and other production-related information.
A1.2.3.4	Users will be able to store a predefined number of queries developed in the COTS package for future use.
A1.2.3.5, 1.2.3.6	Users will be provided an on-line help capability.
A2.1	All users requiring JDISS access will be assigned accounts, privileges, etc. as the site DBA sees fit.
A2.2	All users requiring COLISEUM access will be assigned accounts, privileges, etc. as required.
A2.3	COTS graphics packages will be identified and evaluated. The customer will select which COTS package will be used.
A2.4	Gain*Momentum* was selected as the front-end to the database by the customer.
A2.5	SYBASE was selected by the customer as the database engine for COLISEUM.
A2.6	External systems that are identified to provide data into COLISEUM in other than SQL format (spreadsheet, WP, etc.) will have utilities written to import the data from electronic media. These utilities will be provided to authorized users only (DBA, etc.).
A2.7	Picklists that will require maintenance on a recurring basis will have automated processes provided. The "authoritative position (office)" that maintains this data will be contacted for further definition of requirements.

A2.8	An automated process, only accessible by SSO/DBA individuals within COLISEUM, will be provided. This automated process will allow additions, modifications, and updates of COLISEUM accounts. This process will provide the SSO/DBA the capability to assign database privileges, roles, as well as the type of user (VO, SIO, etc.).
A3.1	Each site will configure it's LAN to provide user access. Users (IOC) must physically be logged in to the JDISS workstation. COLISEUM will adhere to JDISS CSE capabilities.
A3.2	COLISEUM will use the communication paths used/available to JDISS.